CLIO *pocket*

Release 2!

CLIO Pocket is Audiomatica's new Electro-Acoustical Multi-Platform Personal measurement system.

The system comes complete of the **CLIO Pocket** software (Windows and OSX native), the CLIO CP-01 Audio Interface hardware, and accessories.

The CLIO CP-01 Audio Interface uses an USB 2.0 connection for maximum portability and compatibility with current and future computer hardware architectures.

CLIO Pocket is a powerful, rugged and lightweight portable measurement system.

And... fits in your Pocket!

CLIO POCKET IN PILLS

INSIDE THE CLIO POCKET BOX

CLIO Pocket is housed in a plastic box:

Inside the box you find:

- The CP-01 Audio Interface
- The CLIO Pocket CD with software and drivers
- The Microphone MIC-02
- One USB 2.0 cable
- One RCA to RCA 2.7m long microphone cable
- One RCA to alligators impedance cable

TECHNICAL SPECIFICATIONS

CP-01 AUDIO INTERFACE

GENERATOR
24 Bit sigma-delta D/A Converter

Frequency range:	1Hz-45kHz
Frequency accuracy:	better than 0.01%
Frequency resolution:	0.01Hz
Output impedance:	150Ω
Max output level (Sine):	13dBu (3.46Vrms)
Attenuation:	0.1 dB steps to full mute
THD+Noise(Sine):	.008%

AC ANALYZER
24 bit sigma-delta A/D Converter

Input range (full scale):	+40dBV down to -40dBV
Max input acceptance:	+40dBV (283Vpp)
Input impedance:	64kΩ (5.6kΩ mic)
Phantom power supply:	8.2V

### DC ANALYZER
12 bit A/D Converter

Input range:	± 6.5V

MISCELLANEOUS

Sampling frequencies:	96kHz and 48kHz.
Connections:	analog RCA in and out
Digital connection:	USB 2.0 port
Power supply:	USB powered (480 mA)
Dimensions (cm):	9(w)x12(d)x2.5(h)
Weight:	0.3 kg

MIC-02 MICROPHONE

Type:	Condenser electret
Accuracy:	±1 dB, 20 Hz to 10 kHz
	±2 dB, 10 kHz to 20 kHz (direct field)
Maximum level:	130 dB SPL
Dimensions:	8 mm diameter, 12 cm long

CLIO POCKET SOFTWARE REL.2 UNDER X-RAYS
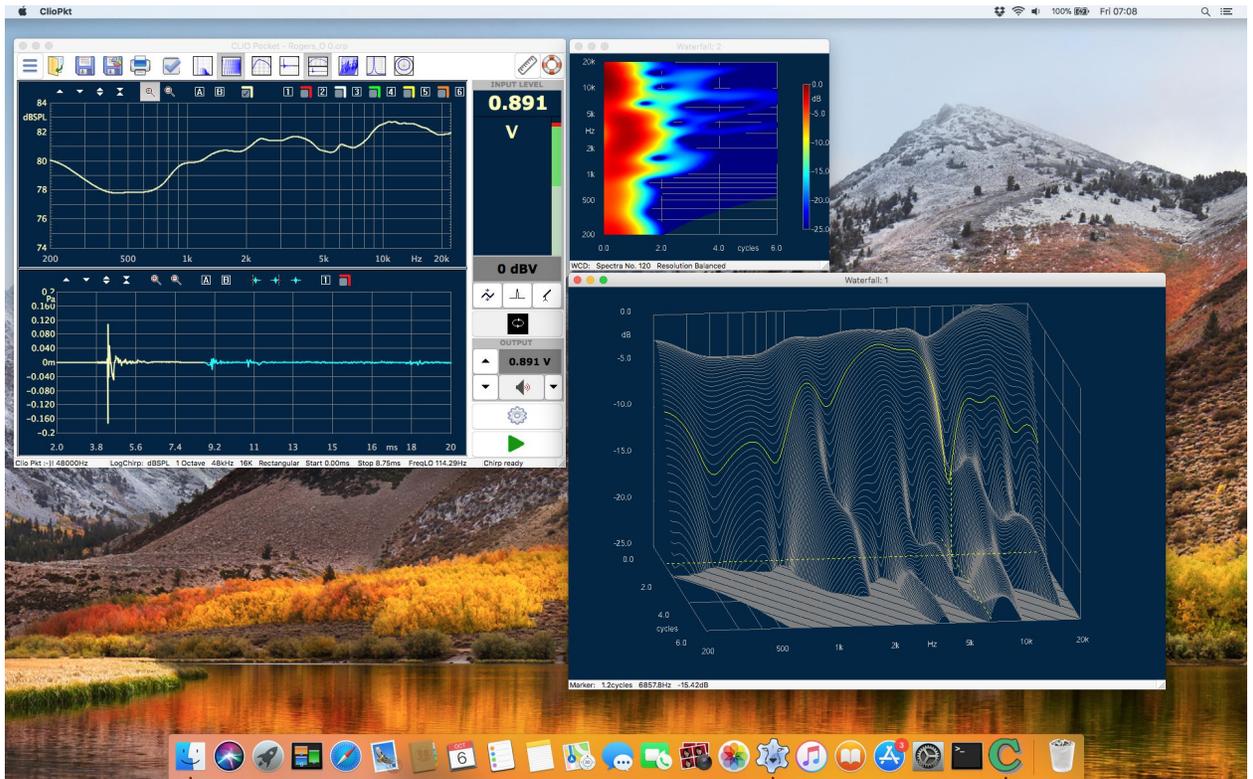
LOG CHIRP ANALYSIS

- **Amplitude, frequency and time calibrated response.**
- **Second harmonic, third harmonic and THD response.**
- Chirp length: 16384, 65536 points
- Impulse length range: 1.36s down to 170ms
- Frequency range: 10Hz to 45kHz
- Frequency response units: dBV, dBu, dBRel, dBSPL
- Impedance response units: Ohm
- Frequency and time simultaneous display, analysis and post-processing
- Frequency smoothing (1/48 to 1 fraction of octave)
- **Phase response (Normal, Minimum and Excess)**
- Auto-Capture Delay with manual interactive fine-tuning
- **Group Delay response (Normal, Minimum and Excess)**
- **Time Impulse response**
- **Step response**
- **Schroeder impulse decay**
- **Energy Time Curve**
- **Quasi-Anechoic acoustic response with time window selection**
- Time window: Rectangular or Auto-Half Hann tuned to impulse max
- Continuous loop measurements for easy interactive tuning of systems
- AutoStore to Overlay function to track up to 10 curves on screen
- Math processing: Add file
- Math processing: Divide by file
- Math processing: Merge High and Low frequency response
- Math processing: dB Shift
- Math processing: MIB (Microphone In the Box) technique
- Save Impulse time data to wav file
- Export ASCII or Excel data to file or clipboard
- Export Graphic data to file or clipboard for easy reporting
- AutoSave function with automatic file name generation

FFT AND RTA ANALYSIS
- Narrow-band FFT analyzer
- FFT size: 4096, 16384, 65536 points
- Acquisition range: 1.36s down to 42ms
- Frequency range: 10Hz to 45kHz
- Measurement units: dBV, dBu, dBRel, dBSPL
- Time window: Rectangular, Hanning, Hamming, Bartlett, FlatTop
- Average: linear to target count or continuously exponential
- Average count: 1 to 9999
- Continue average function to add next linear count
- Max or Min hold function
- Frequency and time simultaneous display and analysis
- Frequency smoothing (1/48 to 1 fraction of octave)

- Real-Time fraction-of-octave analyzer (RTA)
- RTA bands: 1/3 or 1/6 octave
- Event trigger with programmable delay and threshold
- OneShot event trigger function
- Save acquired time data to wav file
- Export ASCII or Excel data to file or clipboard
- Export Graphic data to file or clipboard for easy reporting

SIGNAL GENERATOR AND OUTPUT CONTROLS
- Dedicated Generator Panel with on-the-fly controls
- Plays standard wave files
- Highly optimized waveform calculator
- Waveform: Sinusoid, FFT-bin optimized, bursted and tapered
- Waveform: Two Sinusoids with relative amplitudes
- Waveform: CEA burst with cycles control, FFT-bin optimized and tapered
- Waveform: White noise
- Waveform: Chirp, Lin or Log, up to 256k size and start and stop frequencies
- Waveform: Pink noise, FFT matched, pseudorandom, low crest factor
- Waveform: All Tones, FFT matched, low crest factor

- Dedicated main window surface with output controls
- All controls speeded up by hot keys
- Direct 3-digit input of output level
- Button control for 1dB or 0.1dB steps

MULTIMETER AND INPUT CONTROLS
- Free-running Voltmeter and Sound Level Meter with bar graph
- Measurement units: V, dBV, dBr, dBSPL
- Integration: Slow, Fast, Impulse
- Filter: A-Weight & C-Weight
- Voltage reading range: from few µV to 100V RMS
- THD reading: % and dB
- Frequency reading with 0.1Hz resolution
- Direct measurement of microphone sensitivity
- Direct measurement of reference voltage

- Interactive L-C-R meter
- Measured components: Resistors, Capacitors, Inductors
- L,C,R % reading for easy components selection

- Dedicated main window surface with input controls
- All controls speeded up by hot keys
- Button control input sensitivity in 10dB steps
- Input-Output Loop button

CLIO POCKET SOFTWARE REL.2 UNDER X-RAYS

- Input polarity inversion
- Input gain autorange
- Microphone power supply

WATERFALL
- Decay analysis with 3-D gesture-controlled swiveling graph
- Color map 3D & 2D display with selectable shading
- Powerful 3D marker display
- Multiple windows allowed for easy comparison
- Analyzes Log Chirp Impulse response or FFT time data
- Classical **Cumulative Spectral Decay** for loudspeakers characterization
- **Wavelet Cycle Decay** for detailed decay analysis
- Frequency smoothing (1/48 to 1 fraction of octave)
- Reference operation
- Fully configurable frequency, time, cycle and amplitude axis
- Number of spectra: 15 to 120

POLAR PLOTS
- Circular & Half Circular Polar Plots
- Analyzes Log Chirp frequency response
- Frequency smoothing
- Possibility of mirroring data of symmetrical speakers
- Up to nine simultaneous plots at specified frequencies

THIELE & SMALL PARAMETERS
- Interactive Control Panel to simplify operation
- Free Air parameters
- Added Mass or Known Volume methods for full parameters estimation
- Direct measurement of ReDC.
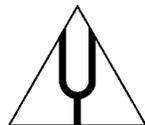- Multiple windows allowed for easy comparison

SYSTEM
- Software operates native under Windows or OSX
- Touch and gesture compliant software design
- Hardware relies on dedicated USB driver
- Ultra stable, glitch-free, streaming operation
- Self-calibration with comparison to Audiomatica Labs calibration conditions
- Stored calibration parameters trace international standards
- Assistance warning in case of any component run out of spec with time
- Security warning in case of any unauthorized parameter change

PC CONFIGURATION
The CLIO CP-01 audio interface running the **CLIO Pocket** software can be installed in any personal computer with the following system specs:
– Pentium IV class processor (suggested minimum 2GHz)
– One free USB 2.0 port
– 1024x786 video adapter
– Microsoft Windows (XP, Vista, 7, 8, 8.1, 10) or Apple Mac OSX (10.5 to 10.13).